

What is claimed:

1. A secure electronic message redirection system, comprising:

a host system having a redirector application, wherein the redirector application is configured to sense a trigger event at the host system and in response to the trigger event to continuously redirect electronic messages from the host system to a mobile data communication device;

a wired network coupled to the host system;

a wireless data network coupled to the mobile data communication device;

a wireless gateway coupled between the wired network and the wireless data network for transmitting messages between the wired network and the wireless network; and

a secure link formed between the host system and the mobile data communication device through the wireless gateway, the secure link formed using an encryption module operating at the host system that encrypts the electronic messages prior to redirection to the mobile data communication device, and a corresponding decryption module operating at the mobile data communication device that decrypts the electronic messages that are received from the host system;

wherein the host system further includes a data compression module for compressing the electronic messages prior to redirecting the messages over the secure link through the wireless gateway, and the mobile data communication device includes a corresponding decompression module for decompressing the compressed electronic messages;

wherein the host system includes a packaging module for packaging the electronic messages into electronic envelopes prior to redirecting the messages over the secure link through the wireless gateway, and the mobile data communication device includes a corresponding unpackaging module for extracting the electronic messages from the electronic envelopes; and

5 wherein the electronic messages remain compressed, encrypted and packaged during redirection over the wired network, through the wireless gateway and over the wireless network to thereby establish a secure electronic message redirection system.

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10 2. A secure electronic message redirection system, comprising:

10 a host system having a redirector component, wherein the redirector component is configured to sense a trigger event at the host system and in response to the trigger event to redirect electronic messages from the host system to a mobile data communication device;

a first network coupled to the host system;

a wireless data network coupled to the mobile data communication device;

15 a wireless gateway coupled between the first network and the wireless data network for transmitting messages between the first network and the wireless network; and

a secure link formed between the host system and the mobile data communication device through the wireless gateway, the secure link formed using an encryption module operating at the host system that encrypts the electronic messages prior to redirection to the mobile data communication device, and a decryption module operating at the mobile data communication device that decrypts the electronic messages that are received from the host system, wherein the redirected messages remain encrypted while being transmitted over the first network, the wireless network, and through the wireless gateway.

3. A secure mobile electronic communication system, comprising:

an electronic communication subsystem operating at a host system, the electronic
5 communication subsystem having a redirector component for redirecting messages from the host
system to a mobile data communication device;

a wireless communication network;

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a wireless gateway system coupled between the host system and the wireless
communication network;

10 wherein the electronic communication subsystem and the mobile data communication
device are configured to establish a secure link over the wireless communication network and
through the wireless gateway system using encryption and decryption modules operating at both
the host system and the mobile data communication device.

15 4. A method of securely exchanging messages between a host system and a wireless mobile data
communication device via a wireless network, comprising the steps of:

providing a wireless gateway for coupling the host system and the wireless mobile data
communication device;

20 establishing an end-to-end, bi-directional secure link between the host system and the
wireless mobile data communication device through the wireless gateway; and

exchanging messages between the host system and the wireless mobile data
communication device via the secure link.

5. The method of claim 4, wherein the establishing a secure link step further comprises the steps of:

providing an encryption module at the host system for encrypting messages prior to redirection, and a corresponding decryption module at the mobile data communication device for decrypting the encrypted messages, wherein the messages remain encrypted until received at the mobile data communication device.

6. The method of claim 5, wherein the establishing a secure link step further comprises the steps of:

providing a message packaging module at the host system for packaging messages into electronic envelopes addressed using an electronic address of the mobile data communication device associated with the wireless network; and

providing a message unpackaging module at the mobile data communication device for extracting the messages from the electronic envelopes.

7. The method of claim 6, wherein the establishing a secure link step further comprises the steps of:

providing a data compression module at the host system for compressing messages prior to redirection; and

providing a data decompression module at the mobile data communication device for decompressing the compressed messages, wherein the messages remain encrypted and compressed until received at the mobile data communication device.

5 8. The method of claim 4, further comprising the steps of:

configuring one or more redirection events at the host system;

detecting that a redirection event has occurred at the host system and generating a redirection trigger;

receiving messages directed to a first address at the host system from a plurality of message senders;

in response to the redirection trigger, exchanging messages between the host system and the mobile data communication device by continuously redirecting the messages from the host system to the mobile data communication device via the secure link.

10 15 9. The method of claim 8, further comprising the steps of:

receiving the messages at the mobile data communication device;

generating reply messages at the mobile data communication device to be sent to the plurality of message senders and transmitting the reply messages to the host system;

receiving the reply messages at the host system and configuring address information of the reply messages such that the reply messages use the first address associated with the host system as the originating address, wherein messages generated at either the host system or the mobile data communication device share the first address; and

transmitting the reply messages from the host system to the plurality of message senders.

25 10. The method of claim 4, further comprising the step of:

storing information regarding the configuration of the mobile data communication device at the host system.

11. The method of claim 10, wherein the configuration information stored at the host system
5 includes:

(A) the network address of the mobile data communication device; and

(B) an indication of the types of message attachments that the mobile data communication device can receive and process.

12. The method of claim 11, wherein the configuration information further includes:

(C) an indication of the type of mobile data communication device.

13. The method of claim 9, wherein the received messages are addressed using a sender address and a receiver address, the method further comprising the steps of:

15 determining whether the receiver address is associated with the mobile data communication device;

if the receiver address is associated with the mobile data communication device, then determining a network address of the mobile data communication device and repackaging the messages into electronic envelopes addressed using the receiver address and the network address
20 of the mobile data communication device; and

after receiving the redirected messages at the mobile data communication device, extracting the messages from the electronic envelopes and displaying the messages at the mobile

data communication device using the sender address and the receiver address, so that it appears as though the mobile data communication device is the host system.

14. The method of claim 11, further comprising the steps of:

5 for each message to be redirected, the host system determining whether the message includes an attachment, and if so then determining the type of attachment;

accessing the stored configuration information at the host system to determine whether the mobile data communication device can receive and process attachments of the determined type;

and

10 if so, then redirecting the attachments to the mobile data communication device, and if not, then redirecting the attachments to a device that is capable of processing the attachment.

15. The method of claim 14, wherein the type of attachment is a sound file.

15 16. The method of claim 8, wherein the redirection events include external events, internal events, or networked events.

17. The method of claim 16, wherein the external event is a message from the mobile data communication device to start redirection.

20 18. The method of claim 16, wherein the internal event is a calendar alarm.

19. The method of claim 16, wherein the internal event is a screen saver activation.

20. The method of claim 16, wherein the internal event is a keyboard timeout signal.

5 21. The method of claim 16, wherein the networked events include messages to begin redirection from computer systems other than the mobile data communication device, which are connected to the host system via a wired network.

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10 22. The method of claim 4, wherein the mobile data communication device is a device selected from the group consisting of hand-held wireless paging computer, a wirelessly enabled palm-top computer, a mobile telephone with data message capabilities, and a wirelessly enabled laptop computer.

15 23. The method of claim 4, wherein the mobile data communication device is a device equipped to receive both voice and non-voice data messages.

20 24. The method of claim 8, wherein the host system includes a preferred list for limiting the redirection step to redirecting only those messages that are transmitted to the host system from a sender on the preferred list.

25. The method of claim 24, wherein a user can add and subtract senders from the preferred list.

26. The method of claim 24, wherein the preferred list is activated and deactivated at the host system.

27. The method of claim 24, wherein the preferred list is activated and deactivated by a command message transmitted from the mobile data communication device to the host system.

28. The method of claim 25, wherein the user can add and subtract senders from the preferred list by configuring the host system.

29. The method of claim 25, wherein the user can add and subtract senders from the preferred list by transmitting a command message from the mobile data communication device to the host system.

30. A method of securely exchanging messages between a host system and a wireless mobile data communication device via a wireless network, comprising the steps of:

providing a wireless redirector component for coupling the host system and the wireless mobile data communication device;

establishing an end-to-end, bi-directional secure link between the host system and the wireless mobile data communication device by: and,

providing a first encryption module at the host system for encrypting messages, and a corresponding first decryption module at the mobile data communication device for decrypting the encrypted messages, wherein the messages remain in a first encrypted state while being

transmitted through every landline and wireless network until received at the mobile data communication device;

whereby messages are exchanged between the host system and the wireless mobile data communication device via the secure link.

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31. A method of claim 30, further comprising the steps of:

providing a second encryption module at the mobile data communication device for encrypting messages created at the mobile data communication device, and a corresponding decryption module at the host system for decrypting the encrypted messages, wherein the messages remain in a second encrypted state while being transmitted through every landline and wireless network until received at the host system.

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32. A network host for redirecting messages from a plurality of message accounts to a plurality of mobile data communication devices, comprising:

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a message server operating at the network host for receiving messages and for storing the received messages in the plurality of message accounts; and

a redirector application operating at the network host for detecting the received messages and for redirecting the received messages from the message accounts to the plurality of mobile data communication devices via a plurality of secure links established between the network host and the plurality of mobile data communication devices;

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wherein the secure links are established using an encryption module operating at the network host and a corresponding decryption module operating at the mobile data communication devices, the network host including an encryption key memory store for storing a plurality of

unique encryption keys that are used to establish a plurality of unique secure links between the network host and each of the mobile data communication devices.

33. A network host system, comprising:

5 a message server for receiving messages and for storing the received messages in a plurality of user accounts;

an encryption key database for storing a plurality of encryption keys, wherein each encryption key is associated with a particular user account; and

10 a redirector application for establishing a plurality of secure links between the network host system and a plurality of mobile data communication devices using the encryption keys, and for redirecting the received messages from the plurality of user accounts to the plurality of mobile data communication devices over the secure links.

15 34. A method of redirecting e-mail messages from a host system to a mobile data communication device, comprising the steps of:

configuring a redirection trigger at the host system;

20 in response to the redirection trigger, establishing a secure link between the host system and the mobile data communication device using an encryption key stored at the host system, continuously redirecting e-mail messages received at the host system to the mobile data communication device via the secure link, and extracting the messages from the secure link at the mobile data communication device using a corresponding decryption key.

35. A method of secure access to a user's data store located at their office computer system via the user's wireless mobile data communication device, comprising the steps of:

providing a wireless gateway for coupling the office computer system and the wireless mobile data communication device;

5 establishing a secure link between the wireless mobile data communication device and the office computer system;

transmitting a command from the wireless mobile data communication device to the office computer system to access the user's data store; and

10 retrieving information from the user's data store and securely transmitting the information to the wireless mobile data communication device over the secure link.

36. A method of secure access to a remote database, comprising the steps of:

providing an office computer system and a wireless mobile data communication device;

15 providing a wireless gateway for coupling the office computer system and the wireless mobile data communication device;

establishing a secure link between the wireless mobile data communication device and the office computer system;

transmitting a command from the wireless mobile data communication device to the office computer system to search for and retrieve information stored at a remote database;

20 the office computer system searching the remote database and retrieving information from the remote database; and

transmitting the retrieved information to the wireless mobile data communication device over the secure link.

37. A method for a user of a mobile communication device to securely access information stored at his office computer system, comprising the steps of:

transmitting a command from the mobile communication device, wherein a secure communication link is provided between the wireless mobile data communication device and the office computer system by ensuring the command remains in an encrypted state from the wireless mobile data communication device to the office computer system;

receiving the encrypted command at the office computer system;

decrypting the command;

initiating a search of at least one data store based on the command; and,

transmitting at least one result from the search to the mobile communication device, wherein a secure communication link is provided between the office computer system and the wireless mobile data communication device by ensuring the least one result remains in an encrypted state from the office computer system to wireless mobile data communication device.

38. The method of claim 37, wherein the command is a request for information.

39. The method of claim 37, wherein the least one data store is associated with the office computer system.

40. The method of claim 39, wherein the least one data store is located at the office computer system.

41. The method of claim 37, wherein the least one data store is associated with a secure website.

5/02/ Sub 42. A wireless mobile communications device associated with a first computer system identified by a first electronic address, wherein the first computer system includes a wireless redirector component for redirecting messages from the first computer system to the wireless mobile communications device, comprising:

a secure link module for establishing a secure link between the wireless mobile communications device and the first computer;

10 a receiver for receiving a redirected message from the first computer system, wherein the redirected message is received via the secure link;

a memory for storing the redirected message;

15 a message generator for generating a reply message to the redirected message at the mobile device using the first electronic address of the first computer system as an originating address of the reply message; and

a transmitter for transmitting the reply message to the first computer system via the secure link.

20 43. The method of claim 42, wherein the wireless mobile communications device is a device selected from the group consisting of hand-held wireless paging computer, a wirelessly enabled palm-top computer, a mobile telephone with data message capabilities, and a wirelessly enabled laptop computer.

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